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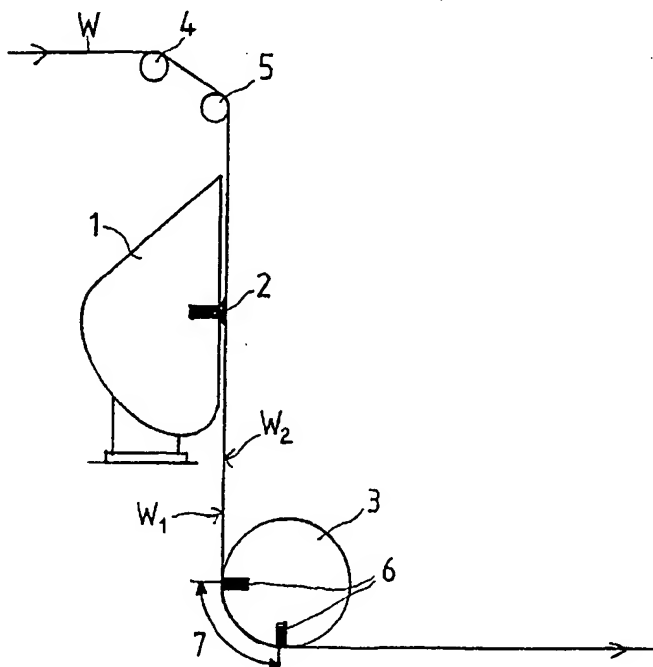
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(54) Title: **METHOD AND APPARATUS IN THE SURFACE SIZING OF A PAPER OR BOARD WEB**



(57) Abstract: The invention relates to a method and an apparatus in the surface sizing of a paper or board web. In the method according to the invention, surface size, such as a starch solution, is applied by means of an applicator device (1) to at least one side of the web (W) to be surface sized, and in which surface sizing is performed per one side of said web (W) in one or more stages. In connection with the application of surface size, a pressure effect is applied to the web (W) by subjecting the web (W) to an underpressure and/or to an overpressure such that, by means of said pressure effect, surface size is forced to penetrate into the web (W) into the pores of the web. Most advantageously, in the pores of the web (W) an underpressure is created that sucks surface size applied to the surface of the web from the surface of the web (W) into the pores in the inner layers. In that connection, surface size is applied to a first side (W1) of the web and a vacuum effect is applied to the opposite side, i.e. a second side (W2), of the web (W) to cause air to flow through the web (W) such that surface size moves from the first side (W1) of the web in the direction of the second

side (W2) of the web into the web (W). In a corresponding manner, both sides of the web (W) can be treated in successive stages.

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 850 673 A (NELSON S) 26 November 1974 (1974-11-26)	1-7, 21-25, 28
Y	column 11, line 11 - line 24 column 11, line 60 - line 62 figure 2	15
X	US 4 340 011 A (WAHREN DOUGLAS ET AL) 20 July 1982 (1982-07-20)	1, 2, 9-12, 21, 22, 26-28
Y	column 3, line 31 - line 34 column 4, line 10 - line 19 figure 1	15
Y	WO 03/004770 A (GROEN JOHAN ; LIPPONEN JUHA (FI); METSO PAPER INC (FI)) 16 January 2003 (2003-01-16) cited in the application claim 6	15
-/-		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art *G* document member of the same patent family		
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A	<p>WO 03/004769 A (GROEN JOHAN ; LIPPONEN JUHA (FI); KINNUNEN JUHA S (FI); METSO PAPER IN) 16 January 2003 (2003-01-16) cited in the application</p>	

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